Widening US 13 from NE of SR 1131 (Shoups Landing Rd) to the Virginia State Line

Gates County

R-2507B & C

I. General Description

This feasibility study describes the widening of US 13 from NE of SR 1131 (Shoups Landing Road) to Virginia State Line, a distance of 9.0 miles.
The project location is shown on Figure 1 and the estimated cost with the breakdown is described below:

ALTERNATE 1. Four-lane divided shoulder sections and 46-feet depressed grass median from NE of SR 1131 (Shoups Landing Rd) to Virginia State Line. The proposed Right of Way is 200-feet. See Figure 1.

This study is the initial step in the planning and design process for this project and is not to be considered the product of exhaustive environmental or design investigations. The purpose of the study is to describe the problem, recommend a treatment including costs, and identify potential problem areas that deserve consideration in the planning and design phases.

II. Background

The primary purpose of this project is to improve the traffic safety and operations along this section of US 13 as well as improve access to the surrounding community. This section of US 13 is primarily a two-lane shoulder section with a pavement width of 26 feet. Additional widening is provided at some of the intersections in order to accommodate left turn lane(s).

In the North Carolina Statewide Functional Classification System, US 13 is designated as principal arterial.

The land immediately surrounding the project area at the southern end is mostly undeveloped property with some scattered single-family residences. There are two structures located along the project route which are described as follows.

1. Structure #19 is a Reinforced Concrete Box Culvert (RCBC) located approximately ½ mile just before the North Carolina/Virginia State Line and carries US 13 over Riddick Swamp.

2. Structure #9 is a bridge located approximately 2.33 miles north east of Chowan River and carries US 13 over Run Swamp.

III. Traffic and Safety

The current year Average Daily Traffic (ADT) within the project limits ranges from 6,900 vehicles per day (vpd) at the north end to 9,900 vpd at the south end of the project. For the design year 2035 build scenario, the estimated traffic volumes within the project limits ranges from 12,700 vehicles per day (vpd) at the north end of the project to 17,500 vpd at the south end of the project. Truck traffic is estimated to make up 14% of the ADT traffic.

The only existing signal within the project is located at the intersection of US 13 and NC 137 and is set to stay at a flashing mode. Currently, this section of US 13 is operating at a level of service (LOS) "B". If no improvements are made, this facility will continue to operate at a LOS "B" in the 2035 design year. However, with the recommended improvements in this report, this section of US 13 is expected to operate at a LOS "A" in the 2035 design year.

During the three-year period from October 1, 2008 through September 30, 2011, there were 80 accidents reported within the project limits. 66 of these crashes were property damage only accidents, 14 were injury crashes and there were no fatalities as a result of these accidents. The accident rate for this 9.0 mile portion of the roadway was 201.12 accidents per 100 million vehicle miles of travel (acc/100mvm), which was considerably higher than the 2008-2011 statewide rate of 151.02 accidents/100 mvm for two-lane undivided urban secondary routes.

The most prevalent accident types along this corridor are as follows: approximately 27 percent of accidents were fixed object, 4 percent were rear end, slow or stop; 35 percent were with animal. Individually, and all other accident types are approximately thirty four (34 percent) or less of the total accidents. Improvement to upgrade this section of roadway to a multilane facility should reduce the likelihood of some of these types of accidents.

IV. Description of Alternatives

ALTERNATE 1. Four-lane divided shoulder sections, 102 feet wide edge to edge of pavement including 4-foot paved shoulders and a 46 feet depressed grass median on 200 feet of right-of-Way. The proposed widening is symmetrical along existing US 13 for the entire length of the project from NE of SR 1131 (Shoups Landing Rd) to Virginia State Line, a distance of 9.0 miles. See Figure 1.

With this proposed cross-section, it is anticipated that there will be one (1) resident and zero (0) business impacted due to this project. The total cost of this section, including construction, right-of-way and utility relocation is estimated to be $57,200,000.

Construction ……	$47,000,000
Right-of-Way……	$7,800,000
Utility Relocation ……..…	$2,400,000
Total Project Cost ……..……	$57,200,000

V. Natural and Environmental Issues

An exhaustive environmental screening was not conducted for this study. However, the following information summarizes conclusions about the project study area based on existing data.

Threatened and Endangered Species
Table 1 below describes Threatened and Endangered Species found within the project study area.

TABLE 1

Common Name	Scientific Name	Federal Status
Rafinesque's Big-eared Bat	Corynorhinus Rafinesquii Macrotis	FSC
N/A	Mesic Mixed Hardwood Forest	N/A
Red-cockaded Woodpecker	Picoides Borealis	E
N/A	Pine/Scrub Oak Sandhill	N/A
N/A	Tidal Cypress-gum Swamp	N/A

Species Status: E refers to Endangered; FSC refers to Federal Species of Concern.

Wetlands

The proposed project corridor crosses wetlands associated with the Chowan river; therefore, permits with the US Army Corps of Engineers will be necessary.

Property Impact Concerns

According to the National Heritage Program GIS database, there are Lands Managed for Conservation and Open Space at the south western portion of the project.

Historic Concerns

Table 2 below describes the Historic Concerns found within the Project study corridor

TABLE 2

Site Name	Quad Name	
Story Family Farm	Winton	
Edward S.A. Ellenor Farm	Gateville	
Pipkin-Savage Farm	Gates	
Riddick W. Gatling Farm	Gatesville	
Warren Greene House	Gates	
Pipkin-Goodman-Edwards Hs & Bi	Gates	
Freeman Hs (Stateline) Hs	Gates	

VI. Recommendations

It should be noted that this portion of US 13 is within the strategic corridor, therefore, a four-lane divided facility with a 46 feet depressed median is recommended.

It should also be noted that part of the project area is designated as bike route, therefore, for those area, bicycle accommodations will be included in this report.

The total project cost for this section is $57,200,000 with $7,800,000 for Right-of-Way, $47,000,000 for Construction and $2,400,000 for Utility Relocation.

R-2507B is from US 158 at Tarheel to SR 1202 (Eure Road-Gates School Road). The total project cost for this section is $26,200,000 with $23,200,000 for construction, $1,800,000 for right-of-way and $1,200,000 for utility relocation.

R-2507C is from SR 1202 (Eure Road-Gates School Road) to the Virginia State Line. The total project cost for this section is $31,000,000 with $23,800,000 for construction, $6,000,000 for right-of-way and $1,200,000 for utility relocation.

As you are aware, this work is preliminary and not the product of comprehensive environment or design evaluations. If you should have further questions or additional information is needed, please do not hesitate to contact me at 919-707-4661, or via e-mail at hesealuka@ncdot.gov.

ATT: Project Map

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